California High-Speed Rail Authority

RFP No.: 13-57

Request for Proposals for Design-Build Services for Construction Package 2-3

RM, Part E.2 – Environmental Compliance Manual

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List of Attachments

Abbreviations

Acronym	Definition
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ATP	Archaeological Treatment Plan
BETP	Built Environment Treatment Plan
BO	Biological Opinion
CEQA	California Environmental Quality Act
CRCM	Cultural Resources Compliance Manager
CWA	Clean Water Act
ECP	Environmental Compliance Plan
EMMA	Environmental Mitigation Management and Assessment
ERA	Environmentally Restricted Areas
ESA	Environmentally Sensitive Area
FED	Final Environmental Document
FGDC	Federal Geospatial Data Committee
FRA	Federal Railroad Administration
GA	Governmental Approval
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscape Survey
IECP	Interim Environmental Compliance Plan
LRP	Legally Responsible Person
MF	Merced-Fresno
MMEP	Mitigation Monitoring Enforcement Program
MMRP	Mitigation Monitoring Reporting Program
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NTP	Notice to Proceed
PA	Programmatic Agreement
PCM	Project Construction Manager
PJD	Preliminary Jurisdictional Delineation
PMT	Program Management Team
PPV	Peak particle velocity
RFP	Request for Proposal
SAGA	Supplemental or Amended Governmental Approvals
SHPO	State Historic Preservation Officer
SOI	Secretary of the Interior

Acronym	Definition
SPCC	Spill Prevention, Control, and Countermeasures
STU	Surface transect units
SWRCB	State Water Resources Control Board
TESC	Temporary Erosion and Sediment Control
USFWS	U.S. Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program

1.0 Introduction

The California High-Speed Rail Authority (Authority) and Federal Railroad Administration (FRA) are the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) lead agencies, respectively, for the California High Speed-Rail Project (HSR). The Authority is the Project owner and works in partnership with the FRA as the Project is, in part, federally funded. Both agencies are bound by the confines of state and federal law to demonstrate compliance with all Environmental Requirements, including but not limited to the Final Environmental Documents (FEDs) and the Governmental Approvals (GAs), Supplemental or Amended Governmental Approvals (SAGAs), and any subsequent or supplemental CEQA and NEPA documents required for the Project.

In no event will Contractor's implementation of, compliance with, or reliance upon this Environmental Compliance Manual (Manual):

- Relieve Contractor of any obligation to perform and comply with all Environmental Requirements;
- Limit Contractor's obligation to perform and comply with all Environmental Requirements;
- Constitute evidence of Contractor's satisfaction of the Environmental Requirements; or
- Limit the indemnity provided by Contractor to the Authority with respect to any failure by the Contractor to satisfy the Environmental Requirements.

This Manual explains some of the procedures required of the Contractor to comply, and demonstrate compliance, with the Environmental Requirements and describes the framework that the Authority has developed to facilitate compliance with these requirements by the Contractor and/or Authority as applicable.

This Manual serves three functions. First, the Manual provides guidance for the Contractor in conducting the environmental compliance work. Second, the Manual provides guidance for the Contractor to follow in development and implementation of an Environmental Compliance Plan (ECP), which will detail how the Contractor will implement and demonstrate compliance with all Environmental Requirements, including, without limitation, those associated with the FEDs, GAs, SAGAs, and related avoidance, minimization and mitigation measures. Preparation of and approval by the Authority of the ECP is required in accordance with Section 42.2 of the General

Provisions. Finally, this Manual provides guidance to the Project Construction Manager (PCM) for use in managing and overseeing the Contractor's compliance with the ECP.

Except as otherwise defined in this Manual, defined terms indicated by initial capitalization have the same meanings as set forth in the Contract Documents.

With regard to the organization of this Manual, many of the cultural requirements for the Project are specific and do not integrate well into the general nature of other sections of the document. Discussions of the cultural requirements are contained completely within Section 10.2.

1.1 Legal Framework

This Manual, by necessity, is general in nature as not all FEDs and GAs will have been obtained or finalized as of the date of this Manual. Additionally, the Contractor is independently obligated to identify all activities it may need to undertake to remain in compliance with the Environmental Requirements with respect to the planning, design, engineering, and construction of the Project. Therefore, this Manual provides specifications based on what is currently known regarding the Environmental Requirements of the Project and on what contractors must typically do to satisfy the compliance obligations of the Environmental Requirements, including without limitation the FEDs and GAs.

This Manual includes requirements that the Contractor must satisfy to ensure that all work complies with terms, conditions, requirements, avoidance, minimization, conservation and mitigation plans and measures of the Environmental Requirements, including, without limitation, those associated with the following:

- The FEDs, including any subsequent or supplemental CEQA or NEPA documents required for the Project;
- The Environmental Footprint, the Regulated Resources Map, the Environmental Constrained Footprint, and the Required Surveys GIS Data Layer;
- The Monitoring Enforcement Program (MMEP)/Mitigation Monitoring and Reporting Program (MMRP);
- The GAs, including SAGAs and Authority-Provided Governmental Approvals; and
- The minimization, mitigation, and conservation plans and measures associated with the GAs, including, without limitation (1) the Section 106 Programmatic Agreement (PA), Memorandum of Agreement (MOA), Archaeological Treatment Plan (ATP), Built Environment Treatment Plan (BETP) (collectively, the "Section 106 Documents"); (2) the federal Endangered Species Act Section 7 Biological Opinion and Incidental Take Statement (the "Biological Opinion"); (3) and the Compensatory Mitigation Plan(s) for the federal Clean Water Act Section 404 Permit, the federal Clean Water Act Section 401 Certification, the California Fish and Game Code Section 1600 Streambed Alteration Agreement provisions, the California Endangered Species Act Section 2081 permit, and any and all other GAs (collectively, the "Compensatory Mitigation Plan(s)").

This Manual also includes requirements to guide the Contractor in developing and providing the Authority with information, analyses, plans, reports and other materials that are sufficient to satisfy the Environmental Requirements, including requirements related to:

- Environmental Compliance Plan;
- Environmental Communications Protocols (as described in Section 6.0);
- Worker Environmental Awareness Program (as described in Section 5.0);
- Environmental Mitigation Management and Assessment (EMMA) (as described in Section 7.0);
- Contractor Environmental Submittals (as described in Section 42.6.2 of the General Provisions);
- The Authority's Environmental Re-Examination Process(es); and
- Project close-out procedures

Finally, this Manual includes requirements to assist the Contractor in assuring that:

- The Environmental Compliance Team, including the Environmental Compliance Manager, have sufficient experience and qualifications to assure compliance with the Environmental Requirements; and.
- Appropriate certifications are provided by Contractor's Environmental Compliance Team members.

1.2 Environmental Compliance Program – Structure and Roles and Responsibilities

The Authority is committed to developing an environmental compliance program that provides an infrastructure in which environmental compliance can be realized. The Authority requires its contractors to adhere to the mandatory standards of compliance articulated in this Manual. Execution of these mandatory standards of compliance will ensure that the program is successfully implemented. The Authority will monitor compliance, with the assistance of a Project Construction Manager, which includes ensuring that the Contractor complies with and implements all of the Environmental Requirements, including but not limited to those associated with the FEDs and the GAs.

1.3 Authority Commitments

In order to obtain approval to construct the Project, the Authority has agreed to comply with a number of commitments in consultation with interested parties and state and federal regulatory agencies. Although the Authority has contractually delegated a large portion of these responsibilities to the Contractor, the Authority, as the Project owner, holds the ultimate responsibility for fulfilling the Environmental Requirements. The Authority, as a lead agency, is required to demonstrate compliance with the Environmental Requirements during all phases of design and construction.

The Authority has developed positive working relationships with the various state and federal regulatory agencies and other interested parties and will demonstrate compliance in an ethical

and transparent manner. All of these components combine to create the Authority's commitment to developing an environmental compliance program that supports implementation and demonstration of compliance with all Environmental Requirements.

The Authority will be responsible to the Contractor for performing the following:

- Providing copies of all FEDs and GAs, including any supplemental information, as well as applications;
- Facilitating meetings during which the development and requirements of all FEDs and GAs are discussed (as described in Section 3.0);
- Reviewing and approving documents in a timely manner submitted by the Contractor to ensure they are consistent with the Authority's commitments and interested party requirements;
- Directing all communication with the various state and federal regulatory agencies and other interested parties; and
- Performing audits and inspections of the Contractor's environmental compliance documentation.

1.4 Contractor Responsibilities

The Contractor is required to design and construct the CP 2-3 in accordance with the Environmental Requirements, including the FEDs and GAs, and requirements set forth in this Manual.

Specifically, the Contactor's responsibilities include, without limitation, the following:

- Compliance with all Environmental Requirements including but not limited to all applicable local, state, and federal environmental Laws that protect biological, archaeological, cultural and historic resources.
- Independently review the FEDs and GAs as they are issued to identify all Environmental Requirements, including all terms, requirements, conditions, and avoidance, minimization, conservation and mitigation programs, plans, measures, and design features required for CP 2-3.
- Determine if any design or proposed activity is consistent with FEDs and GAs or is a Variation as defined in Section 1.2 of the General Provisions.
- Submit Contractor Environmental Submittals to the Authority, including but not limited to, the ECP, Regulated Resources Map, Environmental Constrained Footprint, and Required Surveys GIS data Layer.
- Review of certain Technical Contract Submittals by the Environmental Compliance Manager in accordance with Section 42.6.1 of the General Provisions to ensure that they comply with all Environmental Requirements.
- Reconcile and bring into compliance certain Technical Contract Submittals where they do not comply or they deviate from the Environmental Requirements.

- Implement all conditions and requirements of the FEDs, GAs, SAGAs, or any additional CEQA/NEPA review or documentation, such as, but not limited to, installation of exclusionary and/or silt fencing, protection and treatment plans, etc.

In furtherance of its obligations, the Contractor will, without limitation:

- Develop an ECP that is compliant with this Manual and with the Authority's environmental compliance program.
- Perform environmental review and coordination, both internally and with the Authority, during planning, design, engineering, and construction phases of the Project.
- Implement all Environmental Requirements including, without limitation, those measures set forth in the MMEP and MMRP, the Biological Opinion, the Section 106 Documents, and the Compensatory Mitigation Plan(s).
- Conduct and complete all preconstruction requirements, prerequisites and clearances, including all preconstruction surveys.
- Implement a monitoring, documentation and reporting program throughout construction that includes use of the EMMA system.
- Develop and keep current environmental geospatial data, including the Required Surveys GIS Data Layer, such that at all points during the Work (including both design and construction-related Work) the most current and accurate information is available in GIS format (e.g., impact footprint, survey results, resource protection requirements; and Environmentally Sensitive Area (ESA) locations).
- Ensure environmental compliance for all Project changes. These responsibilities include without limitation: Determining whether any Project change that may result in a Variation (e.g., any Variation associated with design and condition changes, changes that require additional right-of-way, expansion of the Environmental Footprint or Area of Potential Effect, changes due to newly discovered Regulated Resources, ATCs, Design Variances, VECPs, Betterments, or Project Design Changes) requires any additional CEQA/NEPA review and documentation and/or SAGAs (including environmental permitting);
- Implementing the Authority's Environmental Re-Examination Process(es) (Attachment 1
- Coordinating with the Authority to implement all environmental review, analysis, and permitting activities required by the Environmental Re-Examination Process(es) and applicable environmental Laws;
- Coordinating internally with Contractor's environmental, planning, design, engineering and construction staff regarding the Environmental Requirements;
- Foster good relationships with federal, state, and local agencies; tribes; and local stakeholders by ensuring that the commitments the Authority has made are reflected in the Project's final design and are fulfilled during construction. The Contractor will accomplish this by meeting or exceeding all Environmental Requirements; and
- Provide all close-out and finalization actions and reports for environmental permits.

1.5 Design Innovation and Technology

The design-build process is an effective way to deliver transportation projects to the taxpayers on time and within budget, and can be done while protecting the environment. The Authority, however, recognizes that the design-build process is considered by many regulatory agencies to be a different way of doing business, and has therefore worked with federal, state, and local agencies; tribes; and local stakeholders to identify strategies for ensuring environmental protection and compliance of the Project with the Environmental Requirements, including the FEDs and GAs.

In accordance with Section 42.5 of the General Provisions the Contractor bears the sole responsibility and risk arising from any need for obtaining any SAGAs necessary for any Variation; and paying for and providing all supporting technical and environmental information, drawings, plans, analyses, materials and documentation determined to be necessary by the Authority in connection with any additional CEQA/NEPA review or, if required, additional CEQA/NEPA review and documentation and/or SAGAs. Prior to proceeding with any Variation, the Contractor shall obtain Authority approval using the Environmental Re-Examination Process(es). Due to the complexity of the Project, review and approval of any Variation (depending on its scope as compared to what the then-existing environmental documentation clears) may require significant documentation and analysis and lengthy review processes for state and federal regulatory agencies and other interested parties. In addition, the Contractor is required to pay for or provide any additional compensatory mitigation if required as part of the approval for any Variation.

2.0 Components of an Environmental Compliance Program

The purpose of the environmental compliance program is to verify and document that the Project is in compliance with all the Environmental Requirements. The Contractor is responsible for implementing the Authority's environmental compliance program. The Authority's environmental compliance program is reliant on two primary documents to cover various aspects of compliance assurance and quality control for the Project. These documents (described below) are designed to work together to create a solid compliance framework while also allowing for adaptation to specific needs of individual locations or sections of the Project.

2.1 Environmental Compliance Manual

This Environmental Compliance Manual is the document prepared by the Authority and the FRA to guide the environmental compliance program. It provides the framework under which the Contractor will submit environmental compliance documentation to the Authority and sets forth the requirements of the Environmental Compliance Plan that the Contractor must develop. Several of the sections below specifically discuss the Environmental Compliance Plan and its required content. Additionally, other sections in this Manual (e.g., Communication, Monitoring and Training) that are specific to a particular issue or resource type will reference back to the Environmental Compliance Plan. The Contractor's Environmental Compliance Plan will be inclusive of all topic areas included in the Environmental Compliance Manual.

2.2 Environmental Compliance Plan

The Contractor must prepare an Environmental Compliance Plan (ECP), which is the primary environmental management document. The ECP identifies the Environmental Requirements for the Project and defines the procedures the Contractor will implement to satisfy such requirements. The ECP outlines the Contractor's approach to environmental management throughout the construction phases with the primary aim of ensuring compliance with the Environmental Requirements.

2.2.1 Function

The ECP has four primary functions:

- Identifies constraints as seen by the Contractor early in the process and aids in the development of the compliance methods.
- Provides a guide for the Contractor's team on how to implement and document its own compliance program.
- Provides a forum for the Contractor and Authority to develop solutions to environmental constraints early in the process.
- Demonstrates to the Authority and FRA that the Contractor understands the Environmental Requirements of the Project and knows how to successfully implement a compliance program.

2.2.2 Process and Plan Elements

The Contractor will provide the Authority with a complete draft ECP in accordance with Section 42.2 of the General Provisions. The Contractor's Environmental Compliance Manager will be responsible for submitting the draft ECP. The Authority will review the draft ECP in accordance with Section 42.2 of the General Provisions.

The draft ECP shall become final upon approval by the Authority. A final ECP must be completed not later than 30 calendar days prior to the commencement of any construction activities.

The ECP will consist of all of the elements described in this Manual. An example outline meeting the minimum requirements of an acceptable ECP is provided in Attachment 2) although the Contractor is encouraged to adapt and enhance the outline to meet the standards as necessary. The Contractor will submit the ECP, including all updates via EMMA. The Contractor's Environmental Compliance Manager shall maintain a hard copy of the ECP at the Contractor's construction office.

The Contractor will develop the ECP according to the general guidance of this Manual and take into account the specific operating circumstances (e.g., right-of-way access, permit conditions specific to geography, fundamentals of construction methods, etc).

The ECP shall cover all aspects of Project implementation from design review, preconstruction surveys and clearances to the close-out of the Project.

The ECP shall include a comprehensive and detailed checklist of all Environmental Requirements, including those detailed in the FEDs and GAs. The list of the Environmental Requirements shall not be simply a reiteration of the requirements. Rather, the Contractor shall synthesize the environmental measures and conditions contained in the Environmental Requirements, compare them against site-specific conditions, and consider this information while developing the design and construction methods that employ a feasible approach to building the Project while maintaining environmental compliance.

The ECP must detail a method for conducting routine assessments to determine whether it is performing its primary function. The ECP must identify criteria or methods that measure its performance. In addition to the ECP updates required in Section 42.5 of the General Provisions, the Contractor will update or amend the ECP to ensure adaptive management have been applied to ensure the ECP is performing its primary function.

The ECP shall assign Contractor staff and Subconsultants, and detail roles and responsibilities of all Environmental Compliance Team members involved in environmental compliance for the Project. The ECP shall detail how the Contractor's compliance tracking processes and data capture requirements (including, without limitation, preparation and update of the Required Surveys GIS Data Layer) will document compliance with all Environmental Requirements using EMMA.

The ECP shall include procedures to identify and rectify environmental non-compliance. Discovery of all non-compliance shall be communicated to the Authority within 24 hours or less, if a shorter time is otherwise specified in the Environmental Requirements, including applicable Laws, the FEDs, and/or the GAs.

The ECP shall describe all of the environmental issues that need to be managed during construction and provide a strategic approach on how the Contractor will control and manage these issues during construction.

2.2.3 Compliance Monitoring, Inspections, and Audits

The Contractor shall describe in detail in the ECP how compliance monitoring will be implemented as required by the Environmental Requirements. To assist in tracking compliance, the Authority has developed an environmental commitment tracking tool, EMMA, described in detail in Section 7.0. Contractor shall use EMMA to document compliance with all Environmental Requirements and with the procedures outlined in the ECP.

The Authority will establish a schedule of inspections and audits of the Contractor and its Environmental Compliance Team to ensure that established standards of environmental controls are being maintained by the Contractor and in accordance with the final Authority-approved ECP.

2.2.4 Compliance and Non-Compliance/Corrective Action Report

The Contractor shall describe in detail in the ECP how it will investigate, communicate, and resolve observations of non-compliance. Once anon-compliance event is identified, the ECP will describe the timeframe in which the non-compliance will be resolved, how it will be documented

and what further action will be taken if the non-compliance issue is not resolved within the identified timeframe.

The Contractor shall electronically submit written records of compliance, incident or non-compliance/corrective action reports to the Authority via EMMA. These written records will include the date, location, and description of the non-compliance event, photo documentation, documentation of attempts to remedy the discrepancies or issues; and signatures of the on-site monitor, Contractor representative, and PCM representative.

All incidents of non-compliance will evaluate the need for corrective action. These may include changes to work instructions (frequency of testing, test method etc.), updates or amendments to the ECP, further staff training, or other appropriate corrective actions. Incidents of non-compliance shall be reviewed by the Contractor's Environmental Compliance Manager and form a part of construction meeting agendas. It is the Contractor's responsibility to immediately initiate corrective actions, and once completed, provide documentation that corrective actions have been taken to address the issues raised in the non-compliance/corrective action report. The Contractor shall electronically submit such documentation to the Authority via EMMA within 72 hours of issuance of the non-compliance/corrective action report and will require review and approval by the Authority before the issue is considered resolved.

If requirements of the ECP are not fulfilled and appropriate and corrective action is not taken, a non-compliance action report will be prepared and electronically submitted via EMMA by either the Authority or the Contractor, as applicable. A non-compliance action report will be issued if the responsible party makes no effort to resolve the problem after an incident has been documented and reported. The non-compliance action report will document the responsible party's lack of responsiveness and provides the final opportunity for resolution of the issue. Throughout the process of reporting, the responsible party will initiate and confirm completion of appropriate corrective actions.

In accordance with the "Suspension for Cause" clause (Section 39.1) of the General Provisions, the Authority may at any time order the Contractor to suspend Work due to a non-compliance event, as necessary to protect the environment and prevent further non-compliance.

2.2.5 Management Review

The Authority will establish a management review process to ensure the suitability and effectiveness of the ECP. The Authority will review the suitability and effectiveness of the ECP bi-annually or more often if required as a corrective and/or preventative action in response to an environmental non-compliance event or the outcomes of an environmental audit or if required by a statutory body.

2.2.6 Interim ECP

An Interim ECP (IECP) is required prior to conducting field preconstruction. To facilitate preliminary field investigation (e.g., geotechnical survey, etc.) in support of preliminary design, the Contractor will submit an Interim ECP (IECP) specific to the proposed field investigation work. The IECP will include all applicable information (i.e., environmental issues and constraints

for the locations where field investigation work will occur). The information provided in the IECP will be incorporated into the draft and final ECP when submitted to the Authority in accordance with this section. To fulfill the ECP requirements for proposed work, the Contractor shall submit an IECP that includes at a minimum a Temporary Erosion and Sediment Control (TESC) Plan, a Spill Prevention, Control, and Countermeasures (SPCC) Plan, a Fugitive Dust Control Plan, an Unanticipated Archaeological Discovery Plan, and any reference documents to the Authority for review and approval prior to the start of construction activities. The IECP shall also contain a discussion of how to operate in absence of any GAs, if any are still in the acquisition phase.

3.0 Final Environmental Documents and Government Approvals

The Authority will be responsible for obtaining the FEDs, as well as the Authority-Provided GAs.

At the time of Contract award, it is expected that all FEDs and GAs required for the ROD will have been obtained, but other GAs required for the Project will remain outstanding. A listing of all Authority-Provided GAs is located in Section 6.1 of the Special Provisions.

3.1 Acquisition and Sequencing

The Contractor's schedule shall take into consideration potential early work in absence of certain post-award GAs. The Contractor's Environmental Compliance Team shall determine what Work can occur while specific GAs are outstanding. Additionally, the Contractor's Environmental Compliance Team shall prepare an IECP for maintaining compliance during this initial period of the Project (refer to Section 2.3, Interim Environmental Compliance Plan). Activities during this interim period are likely to include, but are not limited to, surveys, aerial photometry, geotechnical work and other processes to facilitate early design.

The Contractor is obligated to identify all GAs that may be needed to design and construct the Project. Some GAs required for the Project are listed in Section 6.1 of the Special Provisions, including which party (Authority or Contractor) is responsible for the acquisition of the GA.

3.2 Compliance during Design

The compliance efforts and involvement of the Contractor's Environmental Compliance Team are required during the early phases of design. The Contractor will be expected to know the specific details of the Environmental Requirements and then use that knowledge to actively assist during advancement of design.

3.2.1.1 Environmental Compliance Report

The Environmental Requirements, including the FEDs and GAs, are based on specific descriptions of the Project that helped determine the scope of the impacts and related mitigation measures. These descriptions include the identification of specific limits of work, the specific infrastructure being constructed and its location as well as the methods of how this work will be performed. Any changes to these descriptions may require additional CEQA/NEPA review and documentation or SAGAs. Therefore, for all Technical Contract Submittals identified in Section 42.6.1 of the General Provisions, the Contractor will provide an Environmental Compliance

Report signed by the Environmental Compliance Manager certifying that the submittal (a) is within the scope of the analysis and findings of the GAs and FEDs and complies with all Environmental Requirements; or (b) requires further review and analysis and potentially amendment of those GAs and FEDs pursuant to applicable Law as implemented through the Authority's Environmental Re-Examination Process(es).

For the Contractor to prepare an accurate Environmental Compliance Report, the Contractor's design and Environmental Compliance Team must have a thorough understanding of the design as well as the methods of construction being proposed as compared to the underlying project-description that was the basis for the FEDs and GAs. The Contractor shall determine if the descriptions of the design elements match how the FEDs and GAs portrayed the activities and what resource information was used as a basis for any impact assessments. The Contractor is obligated to note in its Environmental Compliance Report any Variation and the potential resolution.

A Variation may have a number of resolutions depending on the type and location. It may require updating the environmental footprint with some level of additional analysis, obtaining additional CEQA/NEPA review and documentation or SAGA or deciding that the change does not result in any new impacts and nothing is required. The report will document the components of the Project that are maintaining compliance and those components that are not in compliance with the Environmental Requirements, including the FEDs and GAs. For those items that are not in compliance, the Contractor shall provide proposed/anticipated steps to resolution pursuant to the Authority's Environmental Re-Examination Process(es).

3.3 Governmental Approvals

As stated previously, the Authority may direct that Work begin before some GAs have been obtained (if those GAs are not required for that Work) and the Contractor shall be required to operate under such conditions for a period of time. Once all the GAs have been acquired the Contractor will attend a meeting with the Authority (as described in Section 6.1.5) to provide a comprehensive background of all the environmental permits as well as discuss interpretations of specific measures or conditions.

The following discussion focuses on what the Contractor will need to develop in the ECP that is above and beyond/supplemental/additional to what is specified in the permits or the Permit Table in the Special Provisions.

3.3.1.1 Waters and Water Quality

The Authority has conducted surveys for wetlands and other waters within the Project area and has identified those features within the Project limits as part of the Project Preliminary Jurisdictional Delineation (PJD). The Contractor is not required to conduct additional surveys for wetlands and other waters. However, if the Contractor identifies an area within the Project limits that may qualify as a wetland or other water that was not mapped in the PJD (for reasons such as but not limited to the wetland and/or waters developed between the time the PJD was approved and initiation of construction) as such, the Contractor will notify the Authority prior to

initiating construction-related activities to determine if further coordination and appropriate modifications to permits or other environmental documents must occur.

3.3.1.2 General Construction Permit (NPDES)

The Project is required to obtain and adhere to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit thereby demonstrating compliance with the Clean Water Act (CWA). As the Project owner (title holder of the land or the owner of a utility), the Authority is the Legally Responsible Person (LRP) and as such has ultimate responsibility for ensuring that those permit conditions are completed. As specified in the Contract, the Authority has delegated the responsibility of complying with the permit conditions to the Contractor.

The Contractor shall complete the following to ensure compliance with the NPDES permit:

- Prepare, implement and update a SWPPP;
- Implement and maintain stormwater pollution prevention best management practices; and
- Perform pre-storm, storm and post-storm stormwater pollution prevention site inspections.

The Authority, as the LRP, provides final electronic approval of the aforementioned tasks which in turn is submitted (via the SMARTS web portal; see explanation below) to the State Water Resources Control Board (SWRCB) for final approval. The Contractor is provided coverage under the Authority's NPDES permit and is considered compliant with both state and federal water quality laws when both the Authority and the SWRCB have approved the aforementioned submittals via electronic signature.

3.4 Environmental Re-Examination Guidance

Prior to proceeding with any Variation, as defined in Section 1.2 of the General Provisions, the Contractor shall obtain Authority approval using the Environmental Re-Examination Process(es). The Authority and the FRA have prepared the *California High-Speed Rail Project Environmental Re-examination Process* document (Version 1, April 2014), which presents a standardized approach that the Authority, FRA, and the Authority's contractors/consultants can follow to evaluate Variations. The document articulates the procedural and substantive steps required for environmental review of Variations not previously evaluated by the Authority and FRA.

Pursuant to Section 42.5 of the General Provisions, the Contractor is required to use this process and receive approval prior to proceeding with any Variation to help determine whether the Variation (1) would require additional CEQA/NEPA review and documentation; and/or (2) would require any SAGAs. The Authority's Re-Examination Process(es) is included as Attachment 1. All documentation in support of the Re-Examination Process(es) shall be prepared by the Contractor in accordance with Section 42.5 of the General Provisions.

4.0 Environmental Compliance Team

4.1 Qualified Personnel

In the ECP, the Contractor will identify the members of the Environmental Compliance Team, as described below. The Environmental Compliance Team will be engaged during early design phases following NTP and further engaged prior to construction in the creation of the ECP and technical management plans as required by the Environmental Requirements, including the FEDs, MMEP/MMRP, and associated GAs.

4.2 General Environmental Personnel

4.2.1 Environmental Compliance Manager

The Environmental Compliance Manager shall be the Authority's single point of contact with the Contractor for all environmental issues. The Environmental Compliance Manager shall be responsible for the overall environmental compliance for the Project, and will function as principal technical advisor and coordinator for environmental issues. The ECP will identify all critical roles, responsibilities, and authorities of the Environmental Compliance Manager. The ECP shall identify how the Environmental Compliance Manager will interact with the Authority's environmental compliance program staff. The ECP shall name the Environmental Compliance Manager by name. The Environmental Compliance Manager will be assigned to the Project full time through completion of the Project. The Contractor may replace the Environmental Compliance Manager subject to written approval by the Authority in accordance with Section 4.1 of the General Provisions. If, during the course of the Project, the Authority finds that the Environmental Compliance Manager is not ensuring implementation of the ECP, the Authority may require replacement of the Environmental Compliance Manager in accordance with Section 4.4 of the General Provisions.

The Environmental Compliance Manager will also be responsible for the following:

- Developing the submittals described in this section necessary to support the efforts to obtain and comply with the Environmental Requirements.
- Integrating with the design team during plan preparation to ensure compliance with the Environmental Requirements as well as the implications of changes to design that may result in Variations that require additional CEQA/NEPA review and documentation or SAGAs.
- Coordinating with engineers early in the design stages to ensure they are aware of Environmental Requirements related to their discipline.
- Reviewing engineering plans to ensure the Project's design complies with the Environmental Requirements.
- Facilitating weekly Environmental Compliance Team meetings to coordinate with the Authority's environmental compliance program staff about critical permitting and compliance issues.

- Meeting with the Contractor‘s management staff on a weekly basis to ensure the Project schedule reflects timing restrictions consistent with those identified in the Environmental Requirements and to provide notifications to the Authority for upcoming work.
- Ensuring and providing documentation that the Work complies with all Environmental Requirements, included those set forth in the FEDs, GAs, and any SAGAs.
- Acting as a liaison between the Authority, the design team and the construction personnel (e.g., submitting reports, discussing changes to the Project, communicating compliance issues).
- Maintaining the authority and means to bring the Project into compliance and/or stop work if the Project is in violation of any Environmental Requirement.
- Identifying when a non-compliance event is occurring or has occurred and ensuring the Authority’s notification procedure is implemented.

4.2.2 Specialist Personnel

The following staff roles are expected to be a part of the Contractor’s Environmental Compliance Team to ensure compliance with the Environmental Requirements. They will not all be engaged full time; however, all of them are expected to be knowledgeable about the Project specifically within their individual discipline areas and to be available to assist at any time during the Project. One or more of these specialist positions may be filled by one single individual provided that (a) the individual meets the qualifications of each of the positions he/she will fill; and (b) it does not result in any scheduling conflicts and/or simultaneous duties that result in lack of compliance (in the Authority’s sole discretion to decide) this Manual or the Environmental Requirements. In the event of (a) or (b), the Authority reserves the right to require the Contractor to hire separate individual(s) to fill the conflicting positions, at no cost to the Authority.

4.2.3 Geographic Information Systems (GIS) Specialist

The Contractor shall identify a GIS Specialist responsible for processing and interpreting, as necessary, all GIS-related environmental files provided by the Authority and preparing GIS files related to environmental resources managed by the Contractor’s Environmental Compliance Team. The GIS Specialist must have at least two years of experience processing, interpreting, and creating GIS files related to environmental studies including the mapping of environmental footprints, sensitive environmental resources, engineering plans, and accessor parcels in urban and rural settings.

4.2.4 Regulatory Specialist – Waters

The Contractor shall designate a Regulatory Specialist – Waters to be responsible and advise on matters related to water regulations (Section(s) 401 and 404, Porter-Cologne Act, CDFW 1602). This person will have a minimum of five years of experience permitting water resources including experience performing wetland delineations, assessing wetland functions and values and analyzing wetland impacts.

4.2.5 Regulatory Specialist – Special-Status Species

Contractor shall designate a Regulatory Specialist – Special-Status Species to be responsible and provide advice on matters related to special-status species regulations (ESA and CESA). This person will have a minimum of five years of experience permitting for incidental take including experience preparing biological assessments, assessing habitat and conducting species surveys for the region of the Project.

4.2.6 Project Paleontologist

Contractor shall designate a qualified Project Paleontologist with a minimum of five years of experience managing paleontological resources during active construction to prepare paleontological resources management plans, manage paleontological compliance including implementation of mitigation and permit conditions, coordinate construction activities and to liaise with regulatory oversight agency representatives. The Project Paleontologist will comply with the Environmental Requirements, including the obligations as stated in the associated FEDs and GAs.

4.2.7 Paleontological Monitors

The Contractor shall hire additional qualified Paleontological Monitors, as needed, when construction activities occur in more than one sensitive area simultaneously. Qualified monitors will have at minimum a Bachelor's Degree in Geology, Paleontology or related discipline and one-year of experience monitoring active construction sites. Monitors will be directed by the Project Paleontologist.

4.2.8 Project Biologist

The Contractor shall designate a Project Biologist meeting qualifications as stipulated by the USFWS minimum academic qualifications for a Wildlife Biologist. In addition, the Project Biologist will have at least five years of experience managing biological resources during active construction to prepare biological resources management plans, manage biological compliance including implementation of mitigation and permit conditions, coordinate construction monitoring activities and biological monitors and to liaise with regulatory oversight agency representatives. The Project Biologist will comply with the Environmental Requirements, including the obligations stated in the FEDs and GAs.

4.2.9 Project Botanist

The Contractor shall designate a qualified Project Botanist with a minimum of five years of experience managing botanical resources during active construction and post-construction re-vegetation phases to prepare botanical resources management plans, manage botanical compliance including implementation of mitigation and permit conditions, coordinate construction monitoring and re-vegetation activities and to liaise with regulatory oversight agency representatives. The Project Botanist will comply with the Environmental Requirements, including the obligations stated in the FEDs and GAs.

4.2.10 Biological Monitors

The Contractor will hire additional qualified Biological Monitors, as needed, when construction activities occur in more than one area simultaneously. Qualified monitors will have at a minimum a Bachelor's Degree in Biology and one-year of experience monitoring active construction sites. Monitors will be directed by the Project Biologist.

4.2.11 Cultural Resources Compliance Manager

Within 30 days of NTP, the Contractor will designate a Cultural Resources Compliance Manager (CRCM). In accordance with Programmatic Agreement (PA) Stipulation III, the CRCM must meet the qualifications of a historian, architectural historian, or archaeologist as set forth in the U.S. Secretary of the Interior's professional qualification standards and as required by the PA. Note that the CRCM could also serve as the Principal Investigator Archaeologist or the Principal Architectural Historian, as appropriate.

The Contractor's CRCM will prepare and submit to the Authority weekly compliance reports in accordance with the requirements of the Archaeological Treatment Plan (ATP) and Built Environment Treatment Plan (BETP). The Contractor's CRCM will prepare and submit to the Authority, for review and comment, semi-annual status reports in accordance with the schedule for submittal that are provided for the in the MOA from NTP until Final Acceptance. The Authority will have 30 days to review and comment on these reports. Reports will be revised based on comments received.

4.2.12 Principal Investigator Archaeologist

Contractor will designate a Principal Investigator Archaeologist meeting the U.S. Secretary of the Interior's Professional Qualifications Standards (36 C.F.R. Part 61) to provide expertise in completing the inventory, evaluation, and mitigation of archaeological resources, as well as coordinating the construction monitoring activities that may impact cultural resources throughout the duration of the Project. The Principal Investigator Archaeologist will adhere to the requirements and obligations of the ATP.

4.2.13 Archaeological Monitors

Contractor will hire qualified Archaeological Monitors, in compliance with the monitoring requirements outlined below under Section 10.2 and in the draft ATP and in the Contractor-prepared Archaeological Monitoring Plan. Qualified monitors will have at minimum an Associate's Degree in Anthropology and one year of experience monitoring construction sites or a Bachelor's Degree in Anthropology and six months of experience monitoring active construction sites. Monitoring will follow the procedures outlined in the draft ATP.

4.2.14 Native American Monitors

Contractor will retain the services of Native American Monitors identified by the Authority as having a traditional affiliation to the Project area and/or signatories to the Section 106 MOA in accordance with specification outlined under Section 10.2 and in the draft ATP.

4.2.15 Principal Architectural Historian

Contractor will designate a Principal Architectural Historian meeting the U.S. Secretary of the Interior's Professional Qualifications Standards (36 C.F.R. Part 61) to provide expertise in conducting inventories, evaluations, mitigation and monitoring construction activities for built environment historic resources. The Contractor shall provide expertise in completing the mitigation of adverse effects to historic properties throughout the Project. Additional experts shall be retained as necessary to fulfill mitigation obligations, such as, but not limited to, photographers for Historic American Building Survey/Historic American Engineering Record/Historic American Landscapes Survey (HABS/HAER/HALS), or historical architects and structural engineers for stabilization of historic buildings. In accordance with PA Stipulation III, all work will be carried out by or under the direct supervision of persons meeting the U.S. Secretary of the Interior's Professional Qualifications Standards and who will be approved by the Authority.

All work related to cultural resource will be conducted in accordance with the requirements of the MOA, draft ATP, and draft BETP, and be directly overseen by the CRCM.

4.2.16 Qualified Stormwater Pollution Prevention Plan Developer

As required by the Construction General Permit (as defined in Section 10.3), Contractor will designate and retain on staff at all times a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD). The QSD shall be responsible for oversight and review of the preparation, accuracy, site specificity, and completeness of all analyses and work necessary to develop Permit Regulatory Documents (PRDs) that comply with all Water Quality Conditions, as further set forth in Section 10.3. The Authority shall have the right to approve the Contractor's QSD.

4.2.17 Qualified Stormwater Pollution Prevention Plan Practitioner

As required by the Construction General Permit (as defined in Section 10.3), Contractor will designate and retain on staff at all times a Qualified SWPPP Practitioner (QSP). The QSP shall be responsible for oversight, review, preparation or implementation, accuracy, completeness, and compliance with the Water Quality Conditions of all analyses, BMPs, inspections, monitoring, reports and work necessary to implement the Construction General Permit, the SWPPP, and the other Water Quality Conditions, as further set forth in Section 10.3. The Authority shall have the right to approve the Contractor's QSP.

4.2.18 Water Quality Engineer

As required by the Construction General Permit (as defined in Section 10.3), Contractor will designate and retain on staff at all times one or more qualified California licensed engineer(s) acceptable to the Authority to perform all engineering work required by the Construction General Permit.

5.0 Worker Environmental Awareness Training Program

The ECP shall outline the Contractor's plan for a Worker Environmental Awareness Program (WEAP) that conforms to various training requirements contained within the MMEP/MMRP as well as conditions in GAs (Biological Assessment/Opinion, CDFW 2081 and Archaeological Treatment Plans). The program will include an accountability process to document trained workers and ensure that all field personnel have been trained.

The Contractor shall administer the WEAP to all on-site personnel including surveyors, construction engineers, employees, contractors, Contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel. The Contractor will implement the WEAP throughout the life of the Project, including site preconstruction, construction, and closure.

All field personnel regardless of their position and role shall undergo cultural resources training as outlined in the ATP, BETP, and MMEP/MMRP prior to beginning work on site. Training shall be provided by the CRCM or under direction of the CRCM. This training will otherwise conform to the requirements of the WEAP.

The Contractor shall electronically submit employee sign-in sheets to the Authority via EMMA on a monthly basis or more frequently if necessary and those records will comprise a portion of the Monthly Environmental Compliance Report submittal.

6.0 Environmental Communications

As part of the ECP, the Contractor's Environmental Compliance Manager will develop, document and implement an Environmental Communications Protocol. The Environmental Communications Protocol will describe the process to be used for non-compliance reporting; unanticipated discoveries of Regulated Resources; personnel's roles; procedures for internal and external communications; and communications with the Authority.

The Environmental Communications Protocol will include organizational charts that identify the Contractor's Environmental Compliance Manager, members of the Environmental Compliance Team, and any other personnel who will be assisting the Environmental Compliance Manager to ensure compliance with all Environmental Requirements. It will discuss the personnel's roles and communication procedures to be used for the internal and external communications, and communications with the Authority. At a minimum, the Environmental Communications Protocol will include the elements described in the following sections.

6.1 Meetings

6.1.1 Weekly Environmental Coordination Meetings

The Contractor's Environmental Compliance Manager will organize and implement weekly meetings during design and construction to ensure that the Project design and implementation satisfies the Environmental Requirements, and to identify which construction elements such as locations, work activities, weather conditions, and times of day present the greatest risk of non-

compliance with the Environmental Requirements to the environment. In addition, the Environmental Compliance Manager will review best management practices at these meetings, to avoid and minimize risk. The Contractor shall invite the Authority to attend these meetings. The Environmental Compliance Manager will use the EMMA database and the construction schedules to identify Environmental Requirements pertaining to upcoming work activities.

6.1.2 Environmental Kick Off (Data Transfer) Meetings

Pursuant to Section 42.1 of the General Provisions, to support the Contractor's acquisition of historical and baseline environmental knowledge, a required knowledge transfer workshop (independent of the GIS data meeting described below) will occur. In attendance will be the Authority's environmental team and the Contractor's Environmental Compliance Manager, and the Contractor's lead Environmental Compliance Team personnel. Additional focused subject meetings will be required.

Thirty days prior to the initiation of ground-disturbing activities (demolition, clearing, grading) the Environmental Compliance Team and the Authority's environmental compliance program staff will begin meeting every other week to discuss the program.

6.1.3 GIS Meeting

Pursuant to Section 42.1 of the General Provisions, to facilitate the transfer of geospatial data, the Authority is requiring a minimum of three meetings to review the data and its development, present the file structure and naming convention and provide the specifications for maintaining and updating the data. At a minimum, these meetings will be attended by the Contractor's GIS Specialist. Data related to cultural resources and the National Historic Preservation Act Section 106 process will be transferred only when the CRCM is in attendance. No data will be transferred prior to the initial meeting of this group.

6.1.4 Cultural Resources Meeting

Pursuant to Section 42.1 of the General Provisions, the Contractor shall attend a meeting scheduled by the Authority to facilitate the Contractor team's understanding of the Project's cultural resources and current progress in the Section 106 process. This meeting will at a minimum be attended by the Principal Architectural Historian and the Principal Investigator Archaeologist (described in Section 4).

6.1.5 Governmental Approval Acquisition Update Meeting

Once all GAs are obtained, the Contractor shall attend a meeting scheduled by the Authority to discuss the implications of the GAs and their conditions. The Authority will provide background, including consultation history on all of the permits, as well as any GIS data specifically related to the acquisition of the GAs. The Contractor shall be responsible for reviewing the language and using its familiarity of the Project design and construction methods to determine if any conditions contain language the Contractor believes is unclear. The meeting will focus discussion around approaches to resolving any conflicts, interpretations and determining if any SAGAs may be necessary.

6.1.6 Environmental Preconstruction Meeting

The Contractor shall organize and participate in an environmental preconstruction meeting with the Authority at least 30 days prior to the start of construction. During the environmental preconstruction meeting, the Contractor will discuss its ECP, including its WEAP, to demonstrate how the Contractor will satisfy the Environmental Requirements by, among other things, meeting permit conditions and fulfilling environmental commitments. The Contractor will discuss its construction schedule and identify the early construction elements. These meetings will be held in person and at a minimum will be attended by the Contractor's Environmental Compliance Manager, Project Biologist, CRCM, and the lead field monitor.

6.1.7 Orientation Meetings

Prior to commencement of construction, the Contractor shall meet with the Authority to address environmental compliance documentation requirements. The Contractor shall be responsible for obtaining, maintaining, and reviewing all documents and records required in the Contract for compliance with the Environmental Requirements and other Contract requirements.

6.2 Protocols

6.2.1 Protocol for Internal Communications

The ECP shall contain the following information related to how the Contractor's Environmental Compliance Team will communicate:

- A description of the organization of Contractor's Environmental Compliance Team and reporting structure including roles and responsibilities.
- A description of the coordination and communication between the environmental, design and construction staff.
- A clear discussion regarding "stop work" authority including who on the team has this authority, how it will be executed, and examples of what the decision thresholds are to prevent violations of the Environmental Requirements.
- The process for identifying and responding to non-compliance events and discussion of the differences between non-compliances and violations and how the different levels of compliance will be recorded.

6.2.2 Protocol for External Communications

Within the ECP, the Contractor shall describe procedures for external communications received by the Contractor's Environment Compliance Team. These communications could originate from the public, regulatory agencies, tribes, or other stakeholders. The Contractor shall include a description of the process for relaying these communications to the Authority as appropriate. Under no circumstances should the Contractor's Environmental Compliance Team initiate these communications or substantively respond to them without advanced approval from the Authority.

6.2.3 Protocol for Communication with the Authority's Team

All communications from the Contractor's Environmental Compliance Team to the Authority will conform to the Environmental Communication Protocol described in the ECP. All communications regarding environmental compliance or environmental data or information will include at a minimum the environmental lead for the Authority.

The ECP will detail how the Contractor will manage routine Project record communications through the Authority's web-accessed database EMMA.

7.0 Environmental Compliance Tracking System

The Contractor will document compliance with all Environmental Requirements using EMMA.

EMMA is a database created to document compliance. The database allows users to record implementation of compliance through the use of record forms designed specifically for each discipline. The status of each Environmental Requirement is tracked in EMMA through phases of pre-initiation, in-process, and upon successful completion of each requirement, that requirement's status is noted as completed in the system. The system allows for various records documenting compliance to be aggregated into summaries showing a comprehensive record of all actions documenting compliance with The Environmental Requirements and ultimately, the meaningful mitigation of impacts. EMMA also functions as a reference library of Environmental Requirements. Each requirement may be accessed for review of commitment text, reporting requirements, implementation mechanisms and status of the requirement as well as documents associated with requirements such as permits and reporting programs. This reference library is available to all users.

Compliance records entered and uploaded in EMMA by monitors require review and approval by supervisory staff prior to being made available for Authority review and approval. Once records are approved, they are made accessible for review by regulatory agencies and stakeholders.

Monitoring forms provided by EMMA will be completed as comprehensively as possible with details entered directly onto discipline- or activity-specific forms and corroborated with applicable maps, photos, logs, or other supporting documentation. Monitoring forms will be completed for each instance of construction monitoring, clearance survey, resource management or completion of Environmental Requirements and should be submitted to the Authority for review per reporting schedule requirements as directed by the MMEP, the terms and conditions of the Environmental Requirement or upon completion of the compliance activity. Environmental Requirements associated with design require reporting corroborated with examples of design compliance and should be submitted with or prior to completion of final design. Documentation must be associated with the pertinent Environmental Requirement(s) in order to be deemed complete.

A list of the Contractor's initial EMMA users including technical specialists, field leads and monitors will be provided by the Contractor at least 30 days prior to ground-disturbing activities

(including geotechnical investigations). All the Contractor's identified initial users will attend at least one EMMA training session with the Authority in person to be scheduled no later than 14 days prior to ground-disturbing activities.

All management plans produced by the Contractor's Environmental Compliance Team will also be entered and uploaded into the EMMA system and associated with pertinent requirements. Reports summarizing environmental compliance documentation produced by EMMA will be utilized for the purposes of invoicing.

8.0 Geospatial Data Specifications

8.1 Resource Data

The environmental geospatial data will be provided by the Authority to the Contractor during the GIS meeting (refer to Section 6.1.3) after NTP. The Contractor shall be responsible for maintaining and amending the data throughout the duration of the Contract. The datasets provided will be clearly linked to various documents (e.g., EIR/EIS, 404 and 2081 permit application, Archaeological Survey Report) and will reflect the purpose of the document. This organization will allow the Contractor to understand how each impact was communicated to the appropriate agency(ies).

8.2 Environmental Footprint

The Environmental Footprint included in the FEDs based on the Project description and anticipated impacts of the construction as described. The GIS data displays the footprint concept as both direct and indirect zones. Any change to the Project description (as analyzed in the FEDs) has the potential to change the footprint including the limits of direct and indirect impacts. If a change is being considered or is necessary, the Contractor must evaluate the change through the Environmental Re-Examination Process(es) discussed in Section 3.4 and in Section 42.5 of the General Provisions. Any change to the Environmental Footprint is a Variation (as defined in Section 1.2 of the General Provisions) and requires Authority approval prior to any use of the expanded footprint.

The Contractor will be responsible for developing an Environmental Constrained Footprint as defined in Section 1.2 of the General Provisions, demonstrating the Contractor's understanding of the physical subarea within the Environmental Footprint that may, in compliance with any additional constraints imposed in connection with the Regulated Resources, GAs, SAGAs, and/or applicable environmental Law.

A proposed design change or Variation must still be evaluated through the Authority's Environmental Re-Examination Process(es) even if it does not require expansion of the Environmental Footprint.

8.3 Required Surveys GIS Data Layer

The Contractor shall produce a Required Surveys GIS Data Layer as defined in Section 1.2 of the General Provisions, indicating where various types of surveys and clearances are required

across the Project. This task will require synthesizing the data provided across all Environmental Materials. Due to the organization described above, specific Project locations may have requirements spanning several documents and data layers. There may be wetlands described in the Section 404 application that have required species surveys discussed and displayed in the Biological Assessment.

This task will allow the Contractor to display their understanding of the Project requirements and their ability to synthesize all of this information to maintain compliance with the Environmental Requirements.

The Required Surveys GIS Data Layer shall also be included in the ECP.

9.0 Monitoring

Monitoring is an integral aspect of the part of environmental compliance as it establishes how the Project is performing against the Environmental Requirements, including compliance objectives and targets. In addition to the monitoring specifically required by the Environmental Requirements, including the FEDs and GAs, the ECP will include a proposed level of monitoring to provide a thorough documentation of environmental compliance.

Maintaining a good record of positive compliance across all commitments demonstrates to the Authority and the FRA that the Contractor understands the Environmental Requirements of the Project and knows how to successfully implement a compliance program. It also assists the Authority with maintaining positive relationships with the interested parties and becomes incredibly useful when dealing with the inevitable non-compliance events as they occur on the Project. Many measures and conditions do not have a specific monitoring requirement; however, the Authority requires documentation of these at appropriate intervals. EMMA is constructed to encourage good documentation of all commitments.

The ECP must include a schedule and procedures for monitoring and reporting in order to:

- Identify a process to ensure appropriate monitors are available when required at specific locations.
- Document that monitoring and all associated activities (e.g., recorded observations, photos, GPS) occur as required.
- Demonstrate compliance with the Environmental Requirements, including regulatory conditions and objectives and targets established by the FEDs and GAs.

The Contractor shall regularly monitor and report on dust, noise, vibration, and water quality. The frequency of this monitoring and reporting will be dictated by requirements of the planning obligation, Section 106 agreements and the objectives and targets set forth in the ECP.

In addition, monitoring may be required as a result of a complaint, a request by a statutory body, or a trigger point in an inspection or checklist being exceeded. Monitoring and reporting should also reflect any requirements identified or commitments made in the FEDs or GAs.

10.0 Resource-Specific Technical Specifications

10.1 Biological Resources

The Environmental Requirements, including the FEDs and GAs, set forth the specifications relative to biological resources are contained within the FEDs and GAs. The following sections describe additional requirements that the Contractor shall implement.

10.1.1 Conducting Biological Surveys and Studies

In all cases surveys will be performed by Contractor personnel who have previous experience surveying for a particular resource. All survey personnel will submit their resumes for record through EMMA. The timing of surveys will be consistent with the requirements in the MMEP or GAs. Where not specified in protocols or technical memoranda, surveys will take into account the behaviors and life history of the resource being surveyed.

In cases where surveys are seasonally restricted, the Contractor shall schedule the Work to allow for an appropriate survey period prior to any activities in those locations requiring surveys.

The ECP will include all survey requirements within the Project limits

10.1.2 Establishment of Environmentally Sensitive Areas/Environmentally Restricted Areas

The Contractor shall clearly identify all Environmentally Sensitive Areas (ESA) and Environmentally Restricted Areas (ERA) on the conformed plans to be used in the field. All fencing shall conform to descriptions in the FEDs and GAs. The Contractor shall identify each fenced location with signs indicating whether it is an ESA or ERA. The Contractor shall post such signs on the fencing at least every 200 feet. Signs shall be legible from 100 feet and at least one sign shall be visible from any approach angle.

ESAs are areas within the construction zones containing suitable habitat for special-status species and habitats of concern that may allow construction activities, but have restrictions based on the presence of special-status species or habitats of concern at the time of construction. ERAs are areas outside the construction footprint that must be protected in-place during all construction activities.

In cases where work must occur in locations where suitable habitat exists and determinations have not yet been made, ESAs shall be fenced based on an assumed presence of the resource until such a time as a determination can be made. This includes preconstruction and preparatory activities.

10.1.3 Required Plans

The MMEP/MMRP as well as several GAs describe a number of plans that must be developed prior to construction activities. The Contractor is responsible for preparing these plans unless otherwise directed by the Authority. The Contractor shall schedule to allow for plan review and approval by the Authority prior to the commencement of construction activities. The ECP should include an anticipated schedule for these plans including Authority review timeframes necessary

for revision and approval. Authority review periods will be consistent with Section 8.1 of the General Provisions.

10.2 Cultural Resources

A PA for the CHSR Program was executed in July 2011 by the FRA, the Authority, the Advisory Council on Historic Preservation (ACHP), and the State Historic Preservation Officer (SHPO) for compliance with Section 106 of the National Historic Preservation Act. The PA provides an overall framework for conducting the Section 106 process throughout the CHSR and outlines the approach for consultation with tribes and interested parties, as well as the identification and treatment of historic properties prior to, during, and after construction of each section of the CHSR (Attachment 3).

The PA also requires that a section-specific MOA be developed to document the consultation with signatories and interested parties and to outline the agreed upon mitigation to address the adverse effects of the Project identified through the Section 106 process. An MOA will be executed for the Fresno to Bakersfield Section (which encompasses CP 2-3) concurrent with the ROD/NOD.

The Fresno to Bakersfield MOA stipulates the treatment measures that will be applied to the known significant cultural resources impacted by the Project. The MOA requires that two treatments plans be developed: an Archaeological Treatment Plan (ATP) and a Built Environment Treatment Plan (BETP). Drafts of these plans have been developed and outline the treatment measures that will be applied to each known resource. These plans will be provided in an addendum to the RFP.

The MOA was developed with input sought from the consulting parties, including the City of Fresno, Fresno County, the City of Merced, the Santa Rosa Rancheria Tachi Yokuts Tribe, the Table Mountain Rancheria, the Picayune Rancheria of the Chukchansi Indians, the Tule River Indian Tribe, the North Fork Rancheria of Mono Indians, the Cold Springs Rancheria of Mono Indians, the California Valley Miwok Tribe, the North Fork Mono Tribe, and the Chowchilla Tribe of Yokuts Indians. As additional inventories and evaluations are completed, or new impacts are identified as a result of final design, continued consultation will be required. The Authority will retain the primary responsibility for consultation with the signatories and consulting parties to the MOA.

The Contractor shall complete the cultural resources investigations. This may include conducting pedestrian archaeological surveys, archaeological site evaluations, archaeological data recovery excavations, and construction monitoring as detailed in the below scope of work. These tasks form the core of the Contractor's scope of work outlined below.

The MOA and draft treatment plans outline the requirements for identifying historic properties. The MOA and treatment plans have been developed in concert with the Final EIR/EIS to coordinate the mitigation required by NEPA, CEQA, and Section 106. The MOA and treatment plans provide specific performance standards that ensure that each impact outlined in the Final EIR/EIS will be avoided, minimized, or mitigated.

All Work completed pursuant to the Contract must conform to the requirements of the PA, MOA, and treatment plans. In the case of any conflict between this ECM and the Section 106 compliance documents (PA, MOA, ATP, BETP) the Section 106 compliance documents prevail.

All preconstruction compliance obligations must be completed prior to construction including any agency review periods for deliverables outlined in the MOA or treatment plans.

10.2.1 Archaeology Requirements

The general parameters for archaeological studies, mitigation, and archaeological monitoring are provided in the draft ATP.

The Contractor shall identify all archaeology requirements in the ECP. All archaeological protection measures shall be included on construction plans prior to commencing any work in the area covered by the construction plan. All personnel responsible for ensuring that cultural protection measures are in place and that such protection measures are adequate (as described in Section 4.0) will be properly trained on planned construction activity and provided with copies of all construction plans. Contractor shall be responsible for ensuring that the protection measures outlined in the ATP or BETP are maintained throughout the period of construction.

10.2.2 Draft Archaeological Treatment Plans

The Authority has prepared draft treatment plans, including a Draft ATP for the entire Fresno to Bakersfield section. The Contractor will be responsible for revising the Draft ATP and developing a Final ATP for the Project. Guidelines for the Final ATP will be outlined in the draft ATP and are described in the PA Attachment C, Section E.

10.2.3 Inventory

In accordance with Section 106 of the PA and MOA's provisions for phased identification, the Contractor shall complete the preconstruction archaeological inventory program pursuant to the draft ATP. Approximately 20 to 30 percent of the archaeological APE has been subjected to a pedestrian inventory to identify archaeological resources. The Contractor shall complete an archaeological inventory of the unsurveyed portions of the APE. The Authority estimates that approximately 3,240 acres will require survey.

If Project elements extend outside of the current APE and the APE needs to be expanded, the Contractor shall determine what additional studies are needed, including but not limited to addendum or supplemental archaeological survey reports, findings of effect or treatment plans.

10.2.4 Geoarchaeology

The Contractor shall be responsible for any desktop or field efforts outlined in the draft ATP.

A desktop geoarchaeological effort and limited field investigation was undertaken for the Project prior to completion of Final EIR/EIS.

10.2.5 Evaluation

In accordance with Section 106 of the PA and MOA's provisions for phased identification, the Contractor shall prepare a preconstruction archaeological testing plan and implement a preconstruction archaeological testing program for known resources as outlined in the draft ATP in order to locate significant archaeological deposits in the APE. The Contractor shall not conduct this investigation until the Authority has granted the appropriate permissions. The Contractor shall conduct the archaeological testing consistent with the methods described in the draft ATP.

10.2.6 Treatment/Data Recovery

At least one known archaeological site, CA-TUL-473 in the APE for the Project will require treatment. The site was recorded in 1977 as a "sparse scatter of lithic debitage and artifacts spread over a plowed field." No intact or discrete deposits were recorded. Given the proximity of this site to Tulare Lake, it appears to be a large site that had been disturbed and re-deposited over a large area, possibly due to the construction of bermed holding ponds that were constructed and are flooded as part of Alpaugh Irrigation District activities.

The site has not been resurveyed for this Project due to lack of parcel access and its original site record has not been updated since recordation. A survey undertaken just to the south for solar development included a pedestrian survey of the southern boundary of the site; however no archaeological materials were noted as a result. Based on this information, the initial conclusion was that that the site was destroyed. In consulting with the SHPO, they responded that not enough information is available to determine whether the site is eligible for the National Register of Historic Places or the California Register of Historic Resources.

The Contractor shall conduct an inventory and evaluation of CAL-TUL-473.

When access to the parcel is obtained, the Contractor shall conduct surveys and evaluative testing for CA-TUL-473 in order to assess the site's integrity and significance. Work will begin with a thorough pedestrian survey of the site followed by the excavation of surface transect units (STU) across the site. This work will include a combined program of auguring, trenching, and STU to be placed throughout the site boundaries.

Should the testing determine that intact deposits are present at the recorded location of CA-TUL-473, work will include controlled excavation of areas with indications of intact subsurface deposits and the site will be evaluated for significance in accordance with the procedures outlined in the draft ATP. If the deposits are found significant under Section 106 and CEQA, additional provisions found in the draft ATP will be followed if avoidance is determined to be infeasible.

10.2.7 Monitoring

Ground-disturbing activities will occur in areas that have been identified as either the known location or vicinity of a known archaeological site, or in an area known to be sensitive for the presence of buried archaeological resources.

As described in Section 4.2, the Contractor shall retain Archaeological Monitors and Native American Monitors to monitor for cultural resources as required by the draft ATP. The Authority will retain the primary responsibility for identifying the Native American groups from which to select monitors and will provide to the Contractor a list of Native American groups to contact for monitors as well as the basis for rotating monitors on the list. Details for Native American monitoring is provided in the draft ATP.

The draft ATP includes a draft archaeological sensitivity map (Attachment 4). The Contractor shall update the archaeological sensitivity map after the Contractor-conducted archaeological inventories in accordance with the draft ATP. The Contractor shall prepare a monitoring plan that outlines the requirements for an Archaeological Monitor to monitor during all ground-disturbing construction activities in areas of archaeological sensitivity, and specifies in detail the requirements and locations where archaeological monitoring will be conducted, including monitoring by Native American Monitors. For reference, the Authority has provided the draft archaeological sensitivity map included as Attachment 4.

The Contractor shall produce monitoring logs and submit them to the Authority electronically via EMMA as part of the submittal of complete daily records.

Monitoring logs shall include at a minimum the following:

- Start and stop times of monitoring;
- The description of construction activities and location of monitoring;
- Name(s) of monitoring personnel; and
- Cultural resources observations.

The Contractor shall notify the Authority of any cultural resource discoveries made by the Contractor or any Contractor-Related Entity in accordance with Section 34.1 of the General Provisions.

10.2.8 Final Archaeological Treatment Plans

The Contractor shall prepare a final ATP and a final BETP for the Project after completing the archaeological inventory, and final design, and in accordance with the requirements outlined in the MOA and draft ATP and draft BETP.

10.2.9 Archaeological Discoveries

The Contractor shall immediately notify the Authority of any discoveries of previously unknown cultural and historical resources in accordance with the procedures outlined in the MOA and ATP and Section 34.1 of the General Provisions. The Contractor and all Contractor-Related Entities shall cease work immediately in the area of the discovery until further notice from the Authority, unless work is required to ensure the safety of the workforce and public.

In the event of an archaeological discovery, the Contractor shall comply with all notification and procedures outlined in the draft ATP and final ATP and Section 34.1 of the General Provisions. The procedures for the discovery and treatment of Native American human remains are outlined

in the ATP. Work will not recommence in the area of a discovery until all measures as set out in the contract documents governing discoveries have been completed and the Authority has notified the Contractor that work can recommence.

If archaeological resources are found during construction, the Contractor and Contractor-Related Entities will be required to follow the measures outlined in the draft and final ATP. The Authority will be responsible for notifying and consulting with Native American signatories to the MOA.

10.2.10 Built Environment Requirements

Contractor and Contractor-Related Entities shall comply with all requirements detailed in the Draft BETP.

Known built environment resources within the APE, including buildings and cultural landscape features, have been identified during previous inventories. After award, Contractor will be provided these inventory and evaluation reports. These resources and their protection measures will be mapped on construction drawings by Contractor in coordination with the CRCM. The Contractor shall install, maintain, and monitor all necessary protection measures to ensure that both the built environment and the cultural landscape are protected. If any event inadvertently adversely impacts the built environment and the cultural landscape, the Contractor shall immediately notify the Authority and implement further additional protection measures to prevent further impacts and mitigate consequences, as specified in CUL-MM#14 mitigation measure in the Fresno to Bakersfield Final EIR/EIS and the BETP.

10.2.11 Draft Built Environment Treatment Plans

The Authority has prepared draft treatment plans, including a draft BETP for the entire Fresno-Bakersfield section. The Contractor shall be responsible for revising the draft BETP and developing a Final BETP for the Project. Guidelines for the final BETP will be outlined in the Draft BETP and are described in the PA Attachment C, Section E (Attachment 3).

10.2.12 Inventory, Evaluation and Treatment

The Contractor shall ensure that during final design any potential additional adverse effects are identified as compared to those evaluated and disclosed in the FEDs. The Contractor shall develop design modifications that will avoid additional adverse effects, if feasible. If Project elements extend outside of the current APE and the APE needs to be expanded, the Contractor shall determine what additional studies are needed, including but not limited to addendum or supplemental historic architectural survey reports, findings of effect or treatment plans.

The Contractor shall be responsible for any additional studies and associated costs that may result from any Contractor proposals (if the Authority approves them following completion of the Section 106 compliance process and the Environmental Re-Examination Process(es) as required) that depart from the already approved elements of the Project, such as, but not limited to, expansions of the APE and the identification of additional adverse effects. The Contractor shall be responsible for mitigating any associated effects determined to be adverse. Mitigation may include, but will not be limited to, HABS, HAER, and HALS. Should the Findings of Effect

(FOEs) determine that the effects will be adverse, the Authority will determine mitigation, in consultation with the MOA signatories, which may include, but will not be limited to, HABS, HAER, and HALS.

10.2.13 General Treatment Measures

The Contractor shall develop the measures and methods to fully comply with the general avoidance measures stipulated in the MOA, ATP and BETP and outlined below.

10.2.13.1 General Avoidance Measure #1 – Noise Effects

Operational noise has the potential to cause indirect adverse effects on historic properties that have an inherent quiet quality that is part of a property's historic character and significance (36 CFR 800.5[a][2][iv] and [v]). Although there are no resources where operational noise impacts are anticipated other than those described below, changed circumstances could lead to such effects. Accordingly, the objective of this treatment is to develop design solutions or construction methods to minimize adverse operational noise effects on historic properties that have qualities that make them sensitive noise receptors. The primary requirement of this treatment is to document the consideration of operational noise reduction methods and assess the reduction of operational noise levels associated with the alternative designs. If alternatives are deemed infeasible, or would not notably reduce noise impacts, this will be clearly explained in a technical memorandum for use in conferring with the MOA consulting parties.

10.2.13.2 General Avoidance Measure #2 – Vibration Effects

Steps taken to address potential adverse effects on historic properties include developing methods to avoid construction vibration effects. Potential structural damage caused by construction vibration is anticipated only from impact pile driving at very close distances to buildings. Vibration from impact pile driving during construction could to reach up to 0.12 inch/second (in/sec) peak particle velocity (PPV), or approximately 90 root mean square vibration velocity level, decibels [VdB], at 135 feet from the Project centerline. This level could cause the physical destruction, damage, or alteration of historic properties within 135 feet. Because impact pile driving could cause indirect adverse effects, alternative construction methods causing vibration of less than 0.12 in/sec PPV will be employed near historic properties, or CEQA historical resources, located within 135 feet from the Project centerline. Implementation of this condition (development of alternative construction methods) will minimize adverse vibration effects on historic properties.

The Contractor shall use alternative construction methods causing vibration of less than 0.12 in/sec PPV near historic properties, or CEQA historical resources, located within 135 feet from the Project centerline.

10.2.13.3 General Mitigation Measure #1 – Plan for Inadvertent Damage

The following general mitigation measures have been developed to mitigate effects to multiple historic properties in the Project area.

Contractor shall prepare and implement a plan for repair of inadvertent damage to minimize inadvertent adverse effects on historic properties caused by project construction activities. The plan content will be detailed in the BETP and will be developed before construction begins. The

plan will use any survey or preconstruction photographic documentation prepared for the historic property as part of the baseline condition for assessing damage. The plan will describe the protocols for documentation of inadvertent damage (should it occur), as well as notification, coordination, and reporting to the SHPO and the owner of the historic property. The plan will direct that inadvertent damage to historic properties will be repaired in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (U.S. Department of the Interior 1995). The plan will be developed in coordination with the Authority and the FRA, and will be submitted to the SHPO for review and comment.

10.2.13.4 General Mitigation Measure #2 – Recordation/Documentation of Historic Properties

Contractor shall document in detailed recordation that includes photography all historic properties that will be physically altered, damaged, relocated, or destroyed by the Project. This documentation may consist of preparation of updated recordation forms (DPR 523), or may be consistent with the HABS, the HAER, or the HALS programs; a Historic Structure Report; or other recordation methods detailed in the BETP. The recordation undertaken by this treatment would focus on the aspect of integrity and significance that would be affected by the Project for each historic property subject to this treatment. For example, historic properties in an urban setting that would experience an adverse visual effect should be photographed to capture exterior and contextual views; interior spaces would not be subject to recordation if they would not be affected. Consultation with the SHPO and the consulting parties will be conducted for the historic architectural resources to be documented. Recordation documents will follow the appropriate guidance for the recordation format and program selected.

Before construction, consultation with the SHPO will be initiated by the Authority and other relevant parties to the MOA to identify the appropriate level of documentation. In general, photography should capture views of the historic property from multiple views, and could include reproduction of historic images as well. All fieldwork necessary for photographic documentation, architectural or engineering drawings, cartography, and/or digital recordation through geographic information or global positioning systems (GIS and GPS, respectively) will be completed before Project construction begins. The written data will include a historic narrative for the historic property.

Preparation of the photo documentation may require coordination with an interdisciplinary team, and may include an architectural historian, a historian, and a photographer. The BETP will detail the qualification standards for these preparers. The FRA and the Authority will submit the documentation prepared by the Contractor to the SHPO for review and comment. The BETP will also identify the distribution of printed and electronic copies of the photo documentation as well as permanent archival disposition of the record, if applicable.

The Contractor shall document in detailed recordation any historic properties that are physically altered, damaged, relocated, or destroyed by construction of the Project.

10.2.14 Property Specific Treatment for Known Resources

The following section identifies the full range of avoidance measures and mitigation measures for each historic property adversely affected by the Project. The Contractor shall be responsible for the implementation and associated costs of these avoidance and mitigation measures.

10.2.14.1 South Van Ness Entrance Gate, Fresno

Relocate Van Ness Gate to another Fresno Street

The South Van Ness Entrance Gate will be relocated to another location in the city of Fresno to avoid its destruction and minimize the direct adverse effect of physical damage or alteration. This treatment will partly mitigate the indirect adverse effect caused by the permanent closure of South Van Ness Avenue, but the relocation would require evaluation under the criteria of adverse effect and the property may still be adversely affected by the Project. A relocation plan will be prepared prior to relocation implementation. The relocation plan will include input from consulting parties regarding relocation of the Van Ness Gate structure to provide a comprehensive and thorough approach that will best meet the needs of the parties and the property. The relocation plan for the historic property will take into accounts its historic site and layout. The plan will also provide for stabilization of the structure before, during, and after the move, as well as inadvertent damage.

Prepare Recordation/Documentation

The Contractor shall prepare recordation documentation of the South Van Ness Entrance Gate, including current photographs and historic images, to mitigate the indirect adverse effect from the construction of the Project. Photography shall capture views of the gate as a structure that spans an active roadway and may be used in the relocation plan and/or the preparation of interpretive or educational materials. (See “General Mitigation #2 – Recordation/Documentation” for a more detailed description of this mitigation measure.) The fieldwork necessary for this mitigation measure (e.g., photography and reproduction of historic images), will be conducted before construction begins. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

Prepare Interpretive or Educational Materials

The Contractor shall ensure that interpretive or educational materials regarding the history of the Van Ness Gate are prepared. The interpretive or educational materials will provide information regarding this specific historic property and the aspects of its significance that will be affected by the Project. Interpretive or educational materials could include, but are not limited to: brochures, videos, websites, study guides, teaching guides, articles or reports for general publication, commemorative plaques, or exhibits. The interpretive or educational materials will utilize images, narrative history, drawings, or other material produced for the mitigation described above, including the additional recordation prepared, or other archival sources. The interpretive or educational materials may be advertised, and will be made available to the public. The interpretive materials may be made available in physical or digital formats, at local libraries, historical societies, or public buildings.

10.2.14.2 Washington Irrigated Colony Rural Historic Landscape (WICRHL)

The Washington Irrigated Colony Rural Historic Landscape is a historic property that includes four contributors that require treatment:

- Washington Colony Canal
- North branch of Oleander Canal
- 7870 S. Maple Avenue
- 7887 S. Maple Avenue

General Mitigation

The Washington Irrigated Colony Rural Historic Landscape will be subject to mitigation measures to minimize noise and vibration effects. The Contractor will also be required to prepare a plan for repair of inadvertent damage and historic recordation/documentation. (See General Avoidance Measures #1 and #2, and General Mitigation Measures #1 and #2.) The reduction of the noise and vibration will minimize effects on this rural historic landscape district along the Project route. The plan for repair of inadvertent damage will identify specific contributing elements, such as canals, within the district that may require this treatment.

Updated recordation documentation of the Washington Irrigated Colony Rural Historic Landscape will be prepared to mitigate the indirect adverse effect from construction of the Project. Photography will capture views of the district and its contributing elements and may be used in the preparation of interpretive or educational materials. The fieldwork necessary for this mitigation measure (e.g., photography, mapping, and reproduction of historic images), will be conducted before construction begins. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

Develop Protection and Stabilization Measures

Protection and stabilization measures will be developed before Project construction for any contributing elements of the Washington Irrigated Colony Rural Historic Landscape that may require protection, such as historic irrigation canals. This treatment will ensure that adverse effects on the historic property will be minimized to the extent possible. Such measures could include physical barriers or canal wall stabilization to protect historic properties from construction activities (e.g., excavation, grading, construction equipment, or laydown areas).

Avoid Historic Architectural Resources at the Fresno Heavy Maintenance Facility Site

To avoid potential direct and indirect adverse effects, and direct and indirect substantial adverse changes that could be caused to historic irrigation canals by construction of the heavy maintenance facility at the Fresno Works–Fresno HMF Site, the facility will be sited and constructed north of BNSF milepost 991.6. This treatment will avoid potential direct adverse effects to the two historic canals located south of that point that could be caused by construction of the facility.

Prepare Recordation/Documentation

Recordation/documentation of the Washington Irrigated Colony Rural Historic Landscape will be prepared to mitigate adverse effects caused by construction of the Project. The updated recordation will include identification, description, and photography of contributing elements,

character-defining features, and other elements of the landscape district such as canals and streets. This documentation may consist of preparation of updated recordation forms (DPR 523), or other recordation methods stipulated in the BETP, and will be used to update the documentation of the remaining contributing elements of the district. (See General Mitigation Measure #2 for a more detailed description of this treatment measure.) The fieldwork necessary for this mitigation measure (e.g., photography, as-built drawings, cartography, or digital recordation) will be implemented before construction begins. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

Prepare Interpretive or Educational Materials

The Washington Irrigated Colony Rural Historic Landscape historic property will be subject to historic interpretation or preparation of educational materials regarding its history. The interpretive or educational materials will provide information regarding this specific historic property and the aspects of its significance that would be affected by the Project. Interpretive or educational materials could include, but are not limited to: brochures, videos, websites, study guides, teaching guides, articles or reports for general publication, commemorative plaques, or exhibits. The interpretive or educational materials will utilize images, narrative history, drawings, or other material produced for the mitigation described above, including the additional recordation prepared, or other archival sources. The interpretive or educational materials should be advertised, and made available to, and/or disseminated to the public. The interpretive materials may be made available in physical or digital formats at local libraries, historical societies, or public buildings.

10.2.14.3 Peoples Ditch

Develop Protection and Stabilization Measures

Protection and stabilization measures will be developed before Project construction for the segments of the Peoples Ditch that will be retained adjacent to Project Work that will alter the canal. This treatment will ensure that adverse effects on this historic property will be minimized to the extent possible during work that will alter a segment of the canal structure. Such mitigation measures will include, but are not limited to protection of the above ground historic canal from construction activities, specifically the demolition, re-alignment, and/or underground piping of a section of the canal.

Prepare Recordation/Documentation

Recordation documentation of the adversely affected portion of People's Ditch will be prepared to mitigate the adverse effects of construction of the Project. Photography will capture views of the canal within the context of the larger historic landscape to which it contributes and may be used in the preparation of interpretive or educational materials. (See "General Mitigation #2 – Recordation/Documentation" for a more detailed description of this mitigation measure.) The fieldwork necessary for this mitigation measure (e.g., photography and reproduction of historic images), will be conducted before construction begins. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

Plan Repair of Inadvertent Damage

A plan for repair of inadvertent damage of the Peoples Ditch will be prepared and implemented as a treatment to minimize adverse effects caused by Project construction activities on the portions of the canal structure adjacent to the Project. (See "General Mitigation #1 – Plan for Inadvertent Damage" for a more detailed description of this mitigation measure.) The plan will be developed before construction begins. The plan may use the preconstruction photographic documentation prepared for the photo recordation (above) as the baseline condition for assessing damage and will include the protocols for documentation of inadvertent damage (should it occur), notification, coordination, and reporting to the SHPO and to the landowners or land-owning agencies.

10.2.14.4 Lakeside Cemetery

General Mitigation

The Lakeside Cemetery will be subject to mitigation measures to minimize noise and vibration effects (see General Avoidance Measures #1 and #2). The Contractor will also be required to prepare a plan for repair of inadvertent damage and historic recordation/documentation. (See General Mitigation Measures #1 and #2.) The noise reduction measure is proposed because operational noise has the potential to cause indirect adverse effects on the Lakeside Cemetery, which has an inherent quiet quality that is part of its historic character and significance (36 CFR 800.5[a][2][iv] and [v]). Preliminary Project design options, such as sound walls, have been developed to help reduce noise impacts and follow the FRA methodologies for noise abatement. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

Updated recordation documentation of the Lakeside Cemetery will be prepared to mitigate the indirect adverse effects of construction of the Project. Photography will capture views of the property and its character-defining features and may be used in the preparation of protection plan. (See "General Mitigation #2 – Recordation/Documentation" for a more detailed description of this mitigation measure.) The fieldwork necessary for this mitigation measure (e.g., photography, mapping, and reproduction of historic images), will be conducted before construction begins. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

Develop Protection and Monitoring Measures

Protection measures for the Lakeside Cemetery will be developed prior to construction of the Project. This mitigation would ensure that inadvertent adverse effects on this historic property will either be avoided entirely, or minimized to the extent possible. Such treatment measures could include, but are not limited to, the following: installation of protective barriers around the historic property to prevent accidental damage from construction activities (e.g., excavation, grading, construction equipment, or laydown areas).

Prepare Archival Photo Documentation

Recordation/documentation of the Lakeside Cemetery will be prepared to mitigate the indirect adverse effects of construction of the Project. Photography should capture views of and from the cemetery to show the existing context of the property to Kent Avenue and the surrounding

area. The fieldwork necessary for this mitigation measure (e.g., photography, as-built drawings, cartography, or digital recordation) will be implemented before construction begins. (See General Mitigation Measure #2 for a more detailed description of the recordation/documentation mitigation measure.)

Visual Screening

The Lakeside Cemetery will be subject to visual screening planting that will consist of the installation of trees and/or shrubs placed to minimize the view of the Project from the property. This treatment will help reduce or minimize adverse effects on the cemetery. Plant species will be selected on the basis of their mature size and shape, growth rate, and drought tolerance. No species that is listed on the Invasive Species Council of California's list of invasive species will be planted. Visual screen planting may be undertaken in the form of boundary planting on the affected property, planting at affected viewpoints, and/or planting on Project property as appropriate. This treatment will be developed in consultation with the landowner or land-owning agencies, as well as the SHPO and the MOA signatories. The visual screen planting treatment will include preparation of a planting plan that utilizes evergreen tree or shrub species and will take into account the growth rate, growth habit, and ultimate height and width for the selected species, to ensure that the visual screen can be accomplished effectively. Details of the specifications and implementation of this mitigation measure will be presented in the BETP.

10.2.15 Monitoring

The Contractor shall be responsible for implementing the monitoring requirements outlined in the draft BETP, including periodic monitoring for built environmental resources throughout the duration of construction.

10.2.16 Unanticipated Impacts

It is anticipated that during the design and construction of the Project unanticipated impacts to the built environment will be identified. The procedures to deal with these discoveries are outlined in the MOA and BETP. Contractor will immediately inform the Authority of all such discoveries. Authority will liaise with other parties regarding how unanticipated impacts will be handled to comply with the MOA and BETP for unanticipated impacts. Contractor and Contractor-Related Entities will cease work immediately in the area of the unanticipated impact unless work is required to ensure the safety of the workforce and general public.

Additional treatment and/or data recovery excavations that are required as a result of the Contractor's discoveries are not included in this RFP and will be negotiated separately.

10.2.17 Final Built Environment Treatment Plans

Draft treatment plans were prepared by the Authority to advance the development of mitigation measures for inclusion in this Contract but are based on incomplete inventory and design information. For this reason, the MOA calls for the Contractor to prepare a final BETP for each construction package. Under this contract, the Contractor will be responsible for the preparation of final treatment plans for the Project. After obtaining access to all remaining parcels,

completing the archaeological inventory, and final design, Contractor will prepare final treatment plans in accordance with the requirements outlined in the MOA and draft treatment plans.

10.2.18 Additional Section 106 Review

The Contractor shall complete the following tasks in accordance with the MOA, treatment plans, and all other subsequent agreements and documents that describe the treatment of historic resources. The Contractor shall immediately notify the Authority where the Contractor or any Contractor-Related Entity identifies project design elements requiring changes in the APE or new Section 106 compliance, identifies an archaeological site or feature, identifies potential for previously unidentified built environment impact. In accordance with Section 42.5 of the General Provisions, the Contractor shall not proceed with any Variation until it has obtained Authority approval using the Environmental Re-Examination Process(es).

The Contractor shall review the preliminary and final design to:

- Identify design modifications needed to avoid any additional adverse effects;
- Identify when project elements extend outside of the current APE and recommend the extent to which the APE needs to be expanded; and
- Identify when the design cannot avoid additional adverse effects to resources and identify minimization or mitigation measures or make further recommendations in the treatment plans. In consultation with the Authority, the Contractor shall determine additional studies needed, including but not limited to supplemental ASRs, HASRs, FOEs or treatment plans.

10.2.19 Additional Section 106 Approvals

The Authority will approve the MOA and treatment plans. The Authority will retain responsibility for reviewing the deliverables prepared by the Contractor in compliance with the MOA and treatment plans and will be responsible for coordinating deliverable reviews for all MOA signatories.

Mitigation measures for all potential resource types are identified in the PA, MOA, draft treatment plans and Mitigation Monitoring and Enforcement Plan as well as other documents (legal settlements, municipal agreements, etc). In cases where the Contractor or Contractor-Related Entities identify project design elements requiring changes in the APEs or new Section 106 compliance, the Contractor identifies archaeological site or feature, or the Contractor identifies potential for previously unidentified built environment impact, the Contractor will immediately notify the Authority. In accordance with Section 42.5 of the General Provisions, the Contractor shall not proceed with any Variation until it has obtained Authority approval using the Environmental Re-Examination Process(es).

During design, the Contractor will analyze the effects of each design element as it relates to historic properties and report, develop, and implement any required mitigation as required by the MOA and treatment plans. Such analysis will be included in the Environmental Compliance Report for design submittals.

Additional effects and mitigation resulting from the Contractor-developed design will require additional Section 106 compliance and MOA signatory and interested party consultation. The Contractor will support the Authority by preparing all draft and final deliverables for project approval and be aware of all required review times as outlined in the MOA and treatment plans and plan construction activities accordingly.

The Contractor shall be responsible for implementing all measures and requirements developed to avoid, minimize and/or mitigate adverse effects to historic properties and outlined in the MOA, the BETP and ATP. Tasks vary throughout design, construction, and post-construction activities.

In accordance with Section 42.5 of the General Provisions, subject to the review and approval of the Authority, the Contractor will prepare and provide all technical work, analyses, permit applications, and other information, materials and documentation determined necessary by the Authority in exercise of its sole discretion to evaluate any Variation and any related additional CEQA/NEPA review and documentation and/or SAGAs. Should the FOEs determine that the effects will be adverse, the Authority, in consultation with the signatories of the MOA, will determine the appropriate mitigation, which may include, but will not be limited to, the HABS, HAER, and HALS. The Contractor will be responsible for fulfilling such Environmental Requirements.

The completion of all mitigation obligations outlined in the draft treatment plans are the responsibility of the Contractor. The Contractor shall track the fulfillment of all approved mitigation obligations in EMMA through the submittal of records, summary records, and/or exported reports.

10.2.20 Post-Project Mitigation

The Contractor shall implement all post-Project mitigation measures detailed in the MOA and the draft and final treatment plans. This work includes, but is not limited to, post-construction conditions assessments to ensure that construction activities have not inadvertently impacted historic properties or to ensure that stabilization measures were successful at avoiding impacts.

10.3 Water quality compliance

The Contractor is required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2012-00-6-DWQ NPDES No. CAS0000002, issued July 1, 2010, as amended (“Construction General Permit” or “ CGP”), which constitutes the state and federal Clean Water Act permit applicable to discharges of storm water and runoff from the HSR construction areas, as well as applicable water quality control conditions of other GAs, including without limitation, the conditions of the Master Streambed Alteration Agreement, the Clean Water Act Section 404 Permit, and the Clean Water Act Section 401 Certification. Collectively, the CGP requirements and applicable water quality control conditions of other GAs are referred to in the ECM as the “Water Quality Conditions.” Key capitalized terms used in this Section 10.3 and not defined herein or in the Contract shall have the same meaning as set forth in the CGP.

The Contractor is responsible for all activities and costs associated with obtaining and maintaining coverage under, implementing, and assuring compliance with all terms and conditions of the CGP. However, as the agency responsible for acquiring and owning the right-of-way for HSR construction, the Authority maintains an interest in assuring that the Contractor properly complies with all Water Quality Conditions.

10.3.1 General Construction Provisions

Under the CGP, the Legally Responsible Person (LRP) is the agency that possesses a real property interest in the land upon which the construction or land disturbance activities will occur. The Authority is the public agency that will possess a real property interest in the land upon which HSR construction and disturbance (including demolition) will occur. Therefore the Authority is the LRP for the HSR pursuant to the requirements of the CGP.

However, because the Contractor will conduct and/or will be responsible for all construction activities, the Contractor remains the discharger-in-fact under the CGP.

Further, pursuant to the Contract, the Contractor, as the discharger-in-fact and party responsible for construction, remains responsible for all fees, costs, activities and CGP discharger responsibilities, and is required to obtain and maintain coverage under, and assure compliance with all GAs, including the CGP, as well as all applicable Laws.

Notwithstanding any provisions of procedures specified in this ECM, or terms and conditions of the CGP or any other GAs or SAGAs, the Contractor shall remain liable and responsible for any failure to comply with the CGP (including, without limitation, any bypass, upset, or any failure to properly conduct, prepare or implement accurate and complete documents, plans, BMPs, tests, monitoring, or inspections), as well as any failure to comply with any other Water Quality Conditions.

10.3.2 Preparation of Permit Regulatory Documents and Obtaining Coverage Under CGP

The Qualified SWPPP Developer (QSD) (as described in Section 4.2.15) shall be responsible for oversight, preparation, accuracy, site specificity, completeness and compliance with the Water Quality Conditions of the following Permit Regulatory Documents (PRDs), without limitation: the risk assessment, the SWPPP (and all construction BMPs selected for implementation therein), the Site Map, the Certification Statement, the Notice of Intent, and, either: (a) the Post-Construction Water Balance Calculations Report (and all post-construction BMPs identified therein) as required by the CGP, or (b) an appropriate Post-Construction BMP technical assessment (and all post-construction BMPs) as specified in any applicable Authority-specific MS4 permit.

Upon completion by Contractor of the PRDs, Contractor's QSD shall provide the PRDs to the Authority's designated Project Construction Management Team Water Quality Manager (PCM Water Quality Manager), and shall certify to the PCM Water Quality Manager that all PRDs are complete, accurate, appropriate for the construction site, and in compliance with the Water Quality Conditions.

Upon receipt of the PRDs and the QSD's certification thereof, the PCM Water Quality Manager shall have a reasonable time to review the PRDs, and thereafter, the PCM Water Quality Manager may approve and sign, disapprove and reject, or require changes to the PRDs or any BMPs or other features of the PRDs, as necessary to assure compliance with the Water Quality Conditions.

The PCM Water Quality Manager shall, in coordination with Contractor's QSD, identify and designate those persons on Contractor's staff who will be authorized "data submitters" to submit and electronically file, subject to the QSD's oversight and after the PCM Water Quality Manager's approval and signature, all PRDs and fees necessary to obtain a waste discharger identification and coverage for construction activities under the CGP.

10.3.3 Implementing Water Quality Requirements During Construction

Once a waste discharger identification is obtained, Contractor's Qualified SWPPP Practitioner (QSP) (as described in Section 4.2.16) shall be responsible for oversight, review, preparation or implementation, accuracy, completeness, and compliance with the Water Quality Conditions of all analyses, BMPs, inspections, monitoring, reports and work necessary to implement the CGP, the SWPPP, and the other Water Quality Conditions, including, without limitation:

a. Proper operation, implementation, maintenance, update, revision and modification of the SWPPP and its identified site-specific BMPs;

b. Preparation, implementation and submission of rain event action plans;

c. Implementation of visual monitoring and observations, and preparation and submission of required reports;

d. Implementation of required runoff water quality testing, preparation of required monitoring data and reports, and submission of required monitoring reports;

e. Comparison of monitoring data to numeric action limits when required by the CGP, implementation of all responsive actions required in response to any numeric action limit exceedances, and preparation and submission of any mandated numeric action limit exceedance reports;

f. Implementation of any required bioassessment monitoring and testing, and preparation and submission of required bioassessment monitoring reports;

g. Implementation of required periodic, pre-rain event, and post-rain event inspections, including an annual inspection, and preparation and submission of inspection reports as required by the CGP, including preparation and submission of the annual report;

h. Maintenance at the construction site of the SWPPP, copies of the GAs and any SAGAs, and copies of all other required inspections, reports, data, and information required to be on-site pursuant to the Water Quality Conditions;

i. Facilitation of construction site entry and water quality inspections by regulators and municipal operators of separate storm sewers receiving discharges as specified in the CGP;

j. Implementation and documentation of regular water quality training for all Contractor's employees, subcontractors and other construction staff as required by the Water Quality Conditions.

k. Operation, maintenance and monitoring in accordance with CGP requirements of any activated treatment system BMPs that Contractor may choose to implement, including implementation of all CGP requirements related to any activated treatment system discharge testing, monitoring and compliance with numeric action limits.

Upon completion by Contractor of any inspections, plans, reports, documents, or data collection required to be submitted or electronically filed pursuant to the CGP, including, without limitation, any of those documents referenced above, Contractor's QSP shall provide such inspections, plans, reports, documents, or information to the PCM Water Quality Manager, and shall certify that the inspections, plans, reports, documents, and information are complete, accurate, appropriate for the construction site, and in compliance with the Water Quality Conditions.

Upon receipt of such inspections, plans, reports, documents, or information required to be submitted or electronically filed pursuant to the CGP and the QSP's certification thereof, the PCM Water Quality Manager shall have a reasonable time to review such documents and information, and thereafter the PCM Water Quality Manager may approve and sign, disapprove and reject, or require changes to the plans, documents, BMPs, or monitoring, inspection and testing practices, etc., as necessary to assure a submission that is accurate and in compliance with the Water Quality Conditions.

The PCM Water Quality Manager shall, in coordination with Contractor's QSP, identify and designate those persons on Contractor's staff who will be authorized "data submitters" to submit and electronically file, subject to the QSP's oversight and after the PCM Water Quality Manager's approval and signature, all CGP implementation related inspections, plans, reports, documents and information.

10.3.4 Completion of Construction and Terminating CGP Coverage

Upon completion of construction activities, the Contractor's QSP shall provide, and certify to the PCM Water Quality Manager, that the following reports, documents, and plans are complete, accurate, appropriate for the Project site, and in compliance with the Water Quality Conditions:

a. As-built plans identifying all post-construction structural BMPs implemented, and demonstrating compliance of post-construction BMPs with the Water Quality Conditions;

b. A notice of termination properly demonstrating that CGP coverage can be terminated pursuant to the terms and conditions of the CGP;

c. A copy of the effective Clean Water Act Section 402 NPDES permit providing regulatory coverage for discharges to receiving waters of post-development runoff from the completed construction site; and

d. Any other documents, plans, reports or information requested by the PCM Water Quality Manager that may be necessary to demonstrate compliance with the Water Quality Conditions, or other applicable Laws.

Upon receipt of the reports, documents or plans set forth above, the PCM Water Quality Manager shall have a reasonable time to review such documents, and thereafter may approve and sign, disapprove and reject, or require changes to the document, BMPs or other Project design features as necessary to assure a submission that is accurate and in compliance with the Water Quality Conditions.

The PCM Water Quality Manager shall, in coordination with Contractor's QSP, identify and designate those persons on Contractor's staff who will be authorized "data submitters" to submit and electronically file, subject to the QSP's oversight and after the PCM Water Quality Manager's approval and signature, all completion related plans, reports, documents, and information.

11.0 Project Close-Out Requirements

The Contractor shall verify that it has complied with all Environmental Requirements prior to beginning Project close out. Portions of the Project that are completed well ahead of other work will go through environmental close out as soon as is practicable after Work is completed.

The ECP will also explain how the Contractor will transition out of its environmental responsibilities between Substantial Completion and Final Acceptance to ensure compliance with ongoing environmental conditions or measures (including management and monitoring requirements).

Close out will include but not be limited to the following:

- Clean up and delivery of all GIS data associated with the Project or portion of the Project. Clean-up refers to removing erroneous or dated information fields and applying a naming convention that is consistent across the data (file and file names) and fully detailing the metadata per the Federal Geospatial Data Committee (FGDC) standards. To sum, clarity on how data was used to determine impact acreage calculations should be provided.
- As-builts for all work. The as-builts will have all environmental resources and ESAs clearly displayed and in the correct locations in reference to the work.
- A close-out document as detailed below.

11.1 Environmental Commitment Close-Out Report

The Contractor shall prepare an Environmental Commitment Close-Out Report to summarize overall compliance with the Environmental Requirements, including permit conditions, performance standards and environmental commitments. At a minimum, the Contractor's Environmental Close-Out Report will include the following in detail:

- Fulfillment descriptions completed for all Environmental Requirements, including permit conditions, performance standards and environmental commitments
- Environmental Requirements the Contractor was unable to fulfill, and why

- Significant compliance deficiencies or incidents that may have occurred during the life of the Project and the corrective actions taken
- Future requirements for maintaining permanent BMPs, such as cleaning detention ponds

The Contractor shall complete the Environmental Commitment Close-Out Report within 30 calendar days of Substantial Completion. The Contractor may submit the Environmental Commitment Close-Out Report in stages as discrete elements of work are completed.

List of Attachments

Attachment 1: Environmental Re-Examination Process Guidance
Attachment 2: ECP Outline
Attachment 3: Programmatic Agreement
Attachment 4: Archaeological Sensitivity Map DRAFT

Attachment 1: Environmental Re-Examination Process Guidance

Attachment 2: ECP Outline

1. Purpose
2. Approach
    a. Description of Major Milestones
    b. Key Environmental Issues
    c. Measures of Success
3. Team Organization
    a. DB Team Structure
        i. DB and Subs
    b. Personnel
        i. DB and Subs
        ii. PCM
        iii. Authority/PMT
    c. Roles and Responsibilities
        i. DB and Subs
        ii. PCM
        iii. Authority/PMT
4. Compliance Planning
    a. Training
        i. General environmental training
        ii. Specific training as called for in MMRP
    b. Communication Plan
5. Compliance Implementation
    a. Procedures for Complying with Existing Requirements (Contract, MMRP/EP, Permits, Section 106 Documents)
    b. Addition Preconstruction Field Studies/Preconstruction Surveys
        i. Biology
        ii. Cultural (Archaeology/Native American/Built Environment)
        iii. Other
    c. Construction Monitoring
        i. Biology
        ii. Cultural (Archaeology/Native American/Built Environment)
        iii. Other
    d. Implementation and Maintenance of Protective Measures During Construction(Fencing, ESAs, etc)
    e. Management of Mitigation Measures for Noise, Vibration, etc.
    f. Resources Data Collection and Management (GIS, etc)
    g. Reporting (EMMA)
6. Environmental Compliance Resulting from Design
    a. Design Review for Environmental Compliance
    b. Additional Technical Studies and Documentation
        i. Biological Permitting
        ii. Section 106 Compliance
            1. Studies
            2. Reporting
            3. Consultation
        iii. Environmental Documentation
    c. Resources Data Collection and Management (GIS, etc)

   d. EMMA Updates Resulting from New Mitigation
7. Submittals/Deliverables
8. Emergency Response Process (Cultural, Biology, etc)
9. Quality Control Process
10. Environmental Compliance Assurance/Audit Process
    a. Compliance/Non-compliance Reporting
    b. Corrective Action Procedures
    c. Management Review of Corrective Actions
11. Schedule for Compliance

Attachments

- Contact List
- References for Relevant Documents (MMRP, permits, MOA and treatment plans)
- Process Flowcharts

Attachment 3: Programmatic Agreement

Attachment 4: Archaeological Sensitivity Map DRAFT